

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A composition for use in eliciting an effective immune response to LHRH said composition comprising a LHRH- conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide wherein said LHRH is an amino acid sequence of at least 5 contiguous amino acids of the C-terminal end of SEQ ID NO:1, and wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly or conservative amino acid substitution derivatives thereof ~~or derivatives thereof, wherein said derivatives comprises fragments and amino acid substitutions, insertions or deletions of said LHRH.~~
2. (Previously Presented) The compositions according to claim 1, wherein said ionic polysaccharide is DEAE-dextran.
3. (Previously Presented) The composition according to claim 1 or 2 wherein said LHRH is the amino acid sequence of SEQ ID NO:2.
4. (Previously Presented) The composition according to claim 1 or 2 wherein said LHRH is the amino acid sequence of SEQ ID NO:4.
5. (Previously Presented) A pharmaceutical composition comprising a LHRH- conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide together with one or more pharmaceutically acceptable carriers and/or diluents wherein said LHRH is an amino acid sequence of at least 5 contiguous amino acids, of the C-terminal end of SEQ ID NO:1, and wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly or conservative amino acid substitution derivatives thereof ~~or derivatives thereof, wherein said derivatives comprises fragments and amino acid substitutions, insertions or deletions of said LHRH.~~
6. (Previously Presented) The pharmaceutical composition according to claim 5 wherein said ionic polysaccharide is DEAE-dextran.
7. (Previously Presented) The pharmaceutical composition according to claims 5 or 6 wherein said LHRH is the amino acid sequence of SEQ ID NO:2.
8. (Previously Presented) The pharmaceutical composition according to claims 5 or 6 wherein said LHRH is the amino acid sequence of SEQ ID NO:4.

Claims 9-61 (Canceled)

62. (Not entered) The composition according to claims 1 or 2, wherein said LHRH is the amino acid sequence of SEQ ID NO:1.

63. (Not entered) The composition according to claims 1 or 2, wherein said LHRH is the amino acid sequence of SEQ ID NO:3.

64. (Not entered) The pharmaceutical composition according to claims 5 or 6, wherein said LHRH is the amino acid sequence of SEQ ID NO:1.

65. (Not entered) The pharmaceutical composition according to claims 5 or 6, wherein said LHRH is the amino acid sequence of SEQ ID NO:3.

66. (Not entered) A composition that induces an LHRH immune response comprising an LHRH component conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide, wherein said LHRH is up to 10 amino acids in length and comprises at its C-terminal end the 5 contiguous amino acids of the C-terminal end of SEQ ID NO:1, wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly, and wherein said immune response is an antibody response.

67. (Not entered) The composition according to claim 66 wherein said ionic polysaccharide is DEAE-dextran.

68. (Not entered) The composition according to claims 66 or 67 wherein said LHRH is the amino acid sequence of SEQ ID NO:1.

69. (Not entered) The composition according to claims 66 or 67 wherein said LHRH is the amino acid sequence of SEQ ID NO:2.

70. (Not entered) The composition according to claims 66 or 67 wherein said LHRH is the amino acid sequence of SEQ ID NO:3.

71. (Not entered) The composition according to claims 66 or 67 wherein said LHRH is the amino acid sequence of SEQ ID NO:4.

72. (Not entered) A pharmaceutical composition that induces an LHRH immune response comprising LHRH conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide wherein said LHRH is up to 10 amino acids in length and comprises ~~as~~ at its C-terminal end the 5 contiguous amino acids of the C-terminal end of SEQ ID NO:1, , wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly, and wherein said immune response is an antibody response.

73. (Not entered) The pharmaceutical composition according to claims 72 wherein said ionic polysaccharide is DEAE-dextran.

74. (Not entered) The pharmaceutical composition according to claims 72 or 73 wherein said LHRH is the amino acid sequence of SEQ ID NO:1.

75. (Not entered) The pharmaceutical composition according to claims 72 or 73 wherein said LHRH is the amino acid sequence of SEQ ID NO:2.

76. (Previously Presented) The pharmaceutical composition according to claims 72 or 73 wherein said LHRH is the amino acid sequence of SEQ ID NO:3.

77. (Not entered) The pharmaceutical composition according to claims 72 or 73 wherein said LHRH is the amino acid sequence of SEQ ID NO:4.

78. (Not entered) A composition for use in eliciting an effective immune response to LHRH said composition comprising a LHRH- conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide wherein said LHRH is an amino acid sequence of at least 5 contiguous amino acids of the C-terminal end of SEQ ID NO:1, and wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly.

79. (Not entered) A pharmaceutical composition comprising a LHRH- conjugated to diphtheria toxoid and adsorbed to an ionic polysaccharide together with one or more pharmaceutically acceptable carriers and/or diluents, wherein said LHRH is an amino acid sequence of at least 5 contiguous amino acids of the C-terminal end of SEQ ID NO:1, and wherein the amino acid sequence of the LHRH comprises Gly-Leu-Arg-Pro-Gly or conservative amino acid substitution derivatives thereof.

80. (Not entered) The composition of claim 1, wherein said LHRH derivative comprises spacers introduced at the N-terminus.

81. (Not entered) The composition of claim 5, wherein said LHRH derivative comprises spacers introduced at the N-terminus.

82. (Not entered) The composition of claim 1, wherein said LHRH derivative comprises at least one amino acid substitution according to table I.

83. (Not entered) The composition of claim 5, wherein said LHRH derivative comprises at least one amino acid substitution according to table I.